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10/549,549	06/08/2006	Velu Ganesan	F2040(C)	3834

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EXAMINER

BADR, HAMID R

ART UNIT	PAPER NUMBER
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1794

NOTIFICATION DATE	DELIVERY MODE
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11/24/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/549,549	Applicant(s) GANESAN ET AL.	
	Examiner HAMID R. BADR	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicants' amendment filed on 10/06/2009 is acknowledged.

Claim rejections under 35 U.S.C. 112 first and second paragraphs have been overcome due to amendments made in claim 1.

Claims 1 and 3-17 are being considered on the merits.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 and 3-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellis et al. (GB 2 074 004; hereinafter R1) in view of Ganesan et al. (US 2001/0033880; hereinafter R2).

3. R1 discloses a process for production of black leaf tea where the tea leaves are treated with an acid (0.02 to 0.7 parts by weight of acid to every part by weight of green tea) to lower the pH. R1 teaches of mixing green tea with an acid to lower the pH so that the fermentation is carried at pH 4.3-5.0 range. (page 1, col. 1, lines 40-44)

4. R1 discloses that the process is suitable for fermentation of the withered and macerated material known as "dhool", and readily results in a finished black tea (page 1, col. 1, lines 45-49).

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5. R1 discloses that the nature of the acid used to effect the pH modification is not unduly critical. The acid can be inorganic e.g. sulphuric acid or orthophosphoric acid or an organic acid e.g. acetic acid. The acid can be employed **alone** or as a buffer solution e.g. Walpole's acetate buffer or McIlvaine's citric acid-phosphate buffer. (page 1, col. 1, lines 58-64). Given that the acid can be employed alone or as a buffer, and noting that McIlvaine's citric acid-phosphate buffer has citric acid as one of the components, it would be obvious to use citric acid on its own as disclosed by R1. R1 also teaches that the acid can be organic as well as inorganic. Citric acid is a safe, highly popular and intensely used food acid. Therefore, choosing citric acid to lower the pH of a food commodity would have been well within the skill of the art.

6. R1 discloses the objective of the invention to be maximizing theaflavins (TF) at the expense of Thearubigins (TR). (page 1, col. 2, lines 103-105)

7. R1 discloses the use of McIlvaine's citric acid-phosphate buffer for lowering the pH of tea leaves during the period of tissue disruption. Details are given in Example 1.

8. Example 4 also gives the details of a commercial process on a small scale where withering of plucked tea leaf, maceration of the tea leaves, fermentation of the tea leaves and finally drying of the resulting tea is practiced where in the macerated material is sprayed with an acid solution prior to fermentation. (page 2, col. 1, Example 4)

9. while all the details of the production of black leaf tea is given wherein the macerated leaves are treated with an acid solution, R1 is silent regarding the use of ascorbic acid in the production of black leaf tea.

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10. R2 discloses a process for manufacturing black leaf tea that is infusible in hot or cold water. (Abstract).

11. R2 discloses that tea manufacture, especially black tea manufacture traditionally comprises; withering, macerating, fermenting and firing. [0017].

12. R2 discloses the process to comprise withering the plucked tea leaves (optional, but preferred), maceration in which the withered leaves are rolled to bruise and crush the leaves, fermentation during which catechins are converted to colored substances and finally firing in which the fermented product is fired and dried to give a black leaf tea. [0018-0020].

13. R2 discloses a modification of the traditional process by treating the tea leaves with a solubilizing compound including ascorbic acid or its salts in order to enhance the solubility of the black tea in cold water. [0022].

14. R2 teaches that the tea leaves are treated with the solubilizing compound post plucking. The compounds are in the form of a solution at a concentration of from 0.5-10% by weight of tea. The solubilizing compound can be applied singly or in split doses [0024-0025].

15. R2 discloses that the tea is fermented for 10 minutes to 3 hours at 10 to 60C [0026].

16. R2 discloses that the product obtained by the above process can be used to produce instant tea or for infusing black tea in water at temperatures in the range of 5-100C [0030]. Given that the tea will be an instant tea, it is clear that it can be infused by microwaving as presently claimed.

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17. R2 teaches that ascorbic acid can be added before maceration, during maceration and post maceration. [0033]. Given that the fermentation starts with the onset of maceration, the addition of ascorbic acid during maceration or post maceration can be considered during the fermentation stage.

18. R2 discloses a process in which the ascorbic acid solution is added after 30 minutes of fermentation and the fermentation is allowed to continue for another 30 minutes [Example 1, preparation of Sample 3].

19. R1 discloses the acidification process, using organic or inorganic acids, wherein the concentration of certain compounds affecting the quality of the finished product is increased. R2 teaches of using ascorbic acid causing the leaf tea to be infusible in water at temperatures in range of 5C-100C, a temperature range being presently claimed. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use acidifying compounds such as citric acid to increase the concentration of theaflavins (TF) which in turn increase the briskness and brightness of tea liquor as taught by R1 and incorporate ascorbic acid in the process of making leaf tea to make the finished product which is cold water infusible as disclosed by R2. One would do that to improve the organoleptic properties as well as practicality of making a tea infusion in a wide range of temperatures. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in making a dried black leaf tea with the mentioned properties.

Response to Arguments

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Applicants' arguments have been reviewed. These arguments are not persuasive.

1. Applicants agree that R1 does not disclose addition of citric acid, nor does it provide any hint, suggestion or motivation to one of ordinary skill in the art to use citric acid.

a. R1 discloses that an acid alone or as a buffer solution can be used. R1 discloses McIlvain's citric acid-phosphate buffer. Citric acid is one of the components of this buffer, therefore according to R1 it can be used alone i.e. as a citric acid solution.

2. Applicants argue that the pH of a very dilute (0.005% citric acid by weight in water) is less than 3, whereas the teaching of R1 is directed to use of a solution such that the pH is in the range of 4.3-5.0.

a. This argument is not relevant to the claimed invention because, firstly a 0.005% citric acid solution is not used by the applicants. Secondly, the pH as referred to by applicants is the pH of the citric acid solution not the pH of the tea leaves after applying the acid solution. Thirdly, McIlvain's buffer, even if used as a buffer solution, can provide a wide range of pH from about pH 2 to pH 8.

3. Applicants argue that R2 does not disclose citric acid, malic acid or salts thereof.

a. The disclosure by R1 regarding the use of citric acid is discussed above. R2 is used for its disclosure regarding ascorbic acid.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are

based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr
Examiner
Art Unit 1794

/Keith D. Hendricks/

Supervisory Patent Examiner, Art Unit 1794